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CONTENTS:

Webster—Halticus bractatus..... 209
Snyder—Utah revisited—Idaho and Wyoming..... 211
Knaus—The Lachnosterna of Kansas.. 214
Wenzel—Notes on some of the salt meadow insects of New Jersey.... 218
Editorial..... 220
Economic Entomology..... 221
Notes and News..... 224
Entomological Literature..... 226
Doings of Societies..... 230

HALTICUS BRACTATUS Say.

By F. M. WEBSTER.

Of the many unique forms to be found among the Hemiptera, not the least interesting is the diminutive *Halticus bractatus*. As will be observed from the accompanying illustration, the male, Fig. 1, has the usual Capsid form, while the female, Fig. 2, is entirely different in appearance, and might easily be taken not only for a different species, but as belonging to a different order of insects. In the dried specimen the wings usually are slightly spread, which has given to the figure of the female a slightly unnaturally robust appearance. As I have elsewhere stated,* the female mimics a small flea beetle, *Chætocnema parcepunctata*, even to the extent of being saltatorial, whereas the male can only make his way about in the ordinary way.

The insect feeds during all of its development on the upper surface of the leaves of different plants, notably the red clover, which it causes to become whitened in color, at first in spots giving the leaves a clouded appearance, and later nearly the entire leaf becomes discolored in this way. The young are of a pale green color, the wing pads of the pupa being darker, so

* Twenty-seventh Annual Report of the Entomological Society of Ontario, p. 83. 1896.

that their colors harmonize with those of the discolored leaves which thus form a protection, the insect being only recognized on close observation. My assistant, Mr. C. W. Mally, has found them attacking the following plants, all of which are affected in the same manner: Red clover, *Trifolium pratense* L., *T. repens* L.; prickly lettuce, *Lactuca scariola* L.; ragweed, *Ambrosia artemisiæfolia* L.; white vervain, *Verbena urticæfolia* L.; burdock, *Arctium lappa* L.; narrow plantain, *Plantago lanceolata* L.; *P. rugelii* Deca; ground cherry, *Physalis pubescens* L.; selfheal, *Brunella vulgaris* L.; smartweed, *Polygonum hydropiperoides* L.; mares tail, *Erigeron canadense* L.; thistle, *Carduus lanceolatus* L.; sticktights, *Bidens* sp.; low mallow, *Malva rotundifolia* L.; yellow sweet clover, *Melilotus officinalis* L.; sour grass, *Oxalis stricta* L. Aster sp.; crab grass, *Panicum sanguinale* L.; and also on cucumber vines in the greenhouse. In all cases the species feeds largely on the upper surface of the leaves, but may sometimes be found on the under side, thus showing that it has little fear of natural enemies when in exposed positions.

These insects do not become abundant until early Summer, and continue so until Fall, probably October, when they gradually disappear. In the insectary we have been able to keep a single female alive until late February, but reproduction was almost at a standstill until April, when we found the adults and young becoming more and more abundant from that time forward. From this it would seem that the species might hibernate in the adult stage, but that it usually passed the Winter in the egg; though nothing has as yet been proven, and hence no positive statements can be made on this point.

In the Report of the Kansas State Agricultural College for 1889, two species of these insects are recorded as attacking beans, being found on the under side of the leaves, well down toward the ground. The species implicated in this work were *Agalliastes bractatus* Say and *Halticus minutus* Uhler MS. From the figures given (Pl. X) of these two species it would almost seem as though they might be the two sexes of one of them. In connection with this, it might be well to call attention to the fact that in "Comptes Rendus" of the Biological Society of France, M. A. Girard has called attention to the depredations of a *Halictus minutus* on the peanut crop in French Cochin China (see "Insect Life" iv, p. 340, 1892). In this latter case the peanut crop was threatened with absolute destruction by reason of the attack of this Capsid.

UTAH REVISITED—IDAHO AND WYOMING.

By Prof. A. J. SNYDER.

(Continued from p. 165, vol. viii.)

During our second week our headquarters were in Park City, and the places mentioned in the account of the trip of 1893 were revisited. *Melitæa nubigena* was the most common species. Several *Lycænas* were abundant; *Pseudohazis eglanterina* and var. *nuttallii* had not emerged.

The collector who wishes to have both sexes of the various species of Lepidoptera well represented in his collection should remember that the habits often vary greatly. Often the females remain hidden in the grass or other vegetation and refuse to take to flight even if the penalty is to be crushed under foot. In a low meadow the females of certain *Lycænas* were found clinging to the grass near the earth and were taken by placing the bottle over them without use of net. Usually, I think, the males are more on the wing and fly higher, while the females flit close to the ground and among the underbrush seeking the proper food-plant for the larvæ on or near which to deposit the eggs.

When sexual differences in coloration exist it is my opinion that the color of the female is better suited to escape observation. Embryonic development may be more complex, and hence fewer females reach maturity (this has been proven to be the case with insects of other orders).

These facts, with the additional one, that a single female often produces an immense number of eggs may satisfactorily account for the statement so common, especially concerning the Argynnids, that twenty males are captured to one female. The Argynnids were just beginning to fly when we left Park City, July 10th. On the way to and from Park City we revisited Red Butte Canon just above Fort Douglass. Here *Argynnis nevadensis* and *meadii* were again taken.

Some have disputed the validity of the names given to these Argynnids and claim that *nevadensis* is not a native of Utah. In my opinion the males are readily separated, *meadii* being smaller, with more of the green on both surfaces and lacking the golden brown above as seen in *nevadensis*. As to the females I fail to draw the line unless those of lighter color are *nevadensis*, and the darker ones *meadii*. I believe that *nevadensis* and *meadii*

are found in Red Butte Canon, Utah, and that *meadii* is a variety well deserving a name. My opinion is based more upon habits of the insects than upon the differences in size or color. *Meadii* was found nearer the bottom of valley and often resting on flowers, was easily taken, could even be overtaken and captured when in flight, while *nevadensis* is wary, seldom alighting, and is much swifter of wing. It is also found at greater altitude—even on some of the lower peaks about 8000 feet, while all the *meadii* were taken below 6000 feet.

In his descriptions, Mr. W. H. Edwards gives expanse of male *nevadensis* and *meadii* both as 2.2 inches. I have specimens of *nevadensis* taken in Utah bearing the name in Mr. Edwards' own handwriting, and specimens of *meadii* from Utah bearing Dr. Henry Skinner's handwriting. I have been able to examine a number of specimens from Nevada labeled *meadii*, and all these can be matched from the *meadii* in my own collection. *Nevadensis* I have never seen, unless it be from Utah.

There are other tangles, however, to be unraveled in regard to this genus and a few names to be relegated to the synonymy. Two other species or varieties of Argynnids have been taken in Utah which do not correspond to any of the now described species or varieties, and which in my humble view of the case are more deserving of cognomens than some which bear several appellations, but whose namers cannot identify the offspring of their own pens.

As a convenient escape from the serious inability to identify species in this genus, collectors might arrange all representatives of this group in a large cabinet and say that the result is a single species, representing extreme variations due to geographical distribution, hybridism, dimorphism, melanism, cold, etc. *ad infinitum*. A large collection of this kind would furnish an indisputable evidence of the theory of evolution with the *tale* omitted.

Our next collecting ground was near Ogden, Utah, where an entomological paradise was discovered. A small valley a way up in the mountains only a few acres in extent, but watered by a mountain stream, having an abundance of flowers everywhere, protected from the winds by the surrounding mountains and with plenty of sunshine from 9 A. M. to 4 P. M Insects fairly swarmed.

The collector longed for a dozen arms and as many nets, or an abundance of time to sit down and study "Nature at home."

Epicallia virginalis was found here in abundance, and a good series was collected ranging from the light yellow form with most of the secondaries yellow, to specimens with the secondaries black. One species and two varieties are described and listed in our literature on the genus, but the series I have made satisfies me to give but one name (*virginalis*). When it is almost impossible to find two specimens alike as in this case and that of *Nemeophila petrosa*, it seems foolish to name all the intergrades.

Gnophæla vermiculata failed to appear in 1893, but was common in 1895, especially in the vicinity of Ogden. Sometimes examples of this species were found on the flowers, but more frequently they were found flying among the foliage of the trees seeming to delight in the sunshine.

Thecla crysalus abounds on the scrub oaks and resembles the other members of its genus by being hard to capture in perfect condition. Its ability to hide on the leaves of the oak with wings closely folded and only the lines of the under surface showing, furnishes another instance of insect mimicry.

Probably many collectors have noticed the habit peculiar to the *Theclas* of moving the wings slowly backward and forward the superiors within the inferiors and at the same time slowly opening and closely both pairs slowly. This is only done when the insect has no cause for alarm, but often aids the patient collector by disclosing the bright colors above and helping to locate the fugitive.

Catocalas are most remarkable for their absence in Utah. In two seasons collecting two specimens of *C. aholibah* were taken and probably six noted. Usually the few examples of this species are started near the bottom of canons and the favorite hiding place is among the roots of stunted vegetation. At least twice I have seen specimens on the trestle work of bridges. *Synedas* are more abundant, and are game to the last breath. One *Thecla dumetorum* was captured. More *Chrysophanus zeræ* were taken than in 1893. Of the genus *Pieris* several *protodice* were noted, and many *occidentalis*, also a few *pallida*. I do not remember having seen *P. rapæ* in Utah.

THE LACHNOSTERNA OF KANSAS.

By WARREN KNAUS.

Probably no genus of the larger Coleoptera of Kansas has been so hard to handle, or has been left in such an unsatisfactory condition in the principal collections of the State, than the Lachnosterna—the common June Bugs and May Beetles. They are abundant, almost every year, in April, May, June and July, and in favorite localities during the twilight and early evening, can be taken by the hundreds. From the fact, however, that so many of them looked so much alike in size, color and form, it was practically impossible for one collector to separate them into their proper species. This was true with regard to almost every collection in the country ten years ago, and was especially true with the Kansas collections up to within a very recent date. However, within the past decade, two very thorough revisions of this genus—the first by Dr. Geo. H. Horn, in vol, xiv of the "Transactions" of the American Entomological Society, and the second by John B. Smith, in vol. ii, of the "Proceedings of the National Museum," has made it possible for the collector to work out specific differences, get the "June Bug" section of his cabinet in presentable shape and make the study of this genus one of the most fascinating of all the Coleoptera.

This list of Kansas Lachnosterna will, therefore, be arranged in conformity with the lists of Dr. Horn and Prof. Smith referred to above, while giving the number attached to the specific names in Henshaw's Check List of North American Coleoptera, with the Third supplement thereto.

The species of this list taken in Kansas are based on those in my private collection made since 1880, those in the collection in the State Agricultural College at Manhattan, embracing the collection of the Entomologist, Prof. E. A. Popenoe; those in the collection of the State University at Lawrence, containing Prof. Snow's collections; those mentioned in Prof. J. B. Smith's notes, and a recent species described by M. L. Linell, of the National Museum.

The writer is indebted to John B. Smith, of New Brunswick, N. J., and M. L. Linell, of the National Museum, for the determination of the majority of species in my own collection; to F. A. Marlatt, Assistant Entomologist for the list of Kansas species

in the Agricultural College collection, and to Hugo Koahl, Entomologist, for the species in the University collection.

The list herewith given contains many species considered comparatively rare, and represented in but few collections. The large number of species shows that Kansas has many attractions for this genus, and it is safe to say that many new species will yet be recorded from this State. When possible, the month of capture and locality where taken are given. The first number refers to Smith's list, and the second to Henshaw's List. The species in the collection of the State University are marked K. U. In the Agricultural College collection, A. C. and my own collection by K.

LACHNOSTERNA.

1. 5,739. *lanceolata* Say K., A. C. and K. U. Douglas County, Central and West Kansas, May and June.
6. 10,229. *hamata* Horn, K. rare, Wilson County and Douglas County, May and June.
8. 10,230. *generosa* Horn, K. rare, Wilson County, May and June.
12. 5,749. *ephilida* Say, K., K. U., rare, Salina and Wilson Counties, July.
13. 5,744. *longitarsus* Say, K. U. rare.
17. 5,756 } 5,763 } *gibbosa* Burm., K., A. C. and K. U., common, Wilson County, Riley and Douglas Counties, May, June and July.
18. 10,233. *hirtiventris* Horn, K., K. U. not common, Wilson County and Douglas County, May.
21. 5,775. *affinis* Lec., A. C., K. U. not common, Topeka and Lawrence, or Douglas County; also Riley County, May.
22. 5,773. *prunina* Lec., K., K. U. not common, Saline, Gove and Douglas Counties, July.
23. 5,770. *calceata* Lec., K. common, Wilson County, April and May. The species in K. U. collection, given as *calceata*, and named by LeConte, or Dr. Horn, is really *implicita* or *hirtiventris* Horn.
24. 5,772. *crasissima* Blanch., K., A. C., K. U. common, Gove County, central and northern Kansas, May and June,

25. 5,762. *subpruinosa* Casey, A. C. rare, Manhattan, May.
26. 5,759. *errans* Lec., A. C. rare, southern Kansas.
27. 10,235. *inversa* Horn, A. C. rare, Manhattan and Topeka, April.
28. 10,236. *bipartita* Horn, K. and A. C. not common, Wilson County, McPherson and Manhattan, May and June
29. 5,761. *micans* Knoch, A. C., K. U. rare, Douglas County and Topeka.
31. 10,237. *vehemens* Horn, K., A. C., K. U. rare, Wilson County, Douglas County and Manhattan, April.
32. 10,238. *arcuata* Smith, K. rare, Medora, Kans., May.
34. 10,240. *dubia* Smith, K. rare, McPherson, May.
35. 5,757. *fusca* Froh., K. A. C., K. U. Wilson County, Douglas County, Topeka and Manhattan, May and April.

Variety *puncticollis* Blanch., Douglas County.

36. 10,241. *grandis* Smith, K. rare, Wilson County, May.
37. 10,242. *ulkei* Smith, K. rare, Salina, May.
41. 5,771. *marginalis* Lec., K., A. C., K. U. not common, Wilson County, Topeka and Manhattan, and Douglas County, June and July.
43. 5,767. *fraterna* Harris, A. C., K. U. not common, Douglas and Riley Counties, July.

Variety *lugubrus* Lec., Manhattan, Topeka.
" *cognata* Burm., Douglas County.

46. 10,252. *hornii* Smith, K. rare, Wilson County, May.
47. 10,253. *biimpressa* Smith, Nat'l Museum, rare, Manhattan.
51. 5,776. *knochii* Gyll., K. common, Salina and McPherson, May.
53. 5,774. *rugosa* Mels., K., K. U. common, Gove County, McPherson, May.
54. 5,781. *hirsuta* Knoch, K. U. not common, Douglas County.
56. 10,228. *diffinis* Blanch., = 5,786. *rufiola* Lec., K. U. rare, Douglas County.
57. 10,255. *implicita* Horn, K., A. C. rare, Wilson County, Manhattan, Riley County, May, June.
59. 5,782. *balia* Horn, A. C. rare, Manhattan, May.
— ——— *minor* Linell, new species, described from a single male in the National Museum, collected by F. F. Crevecoeur, Onaga, Kans.

63. 5,780. *hirticula* Knoch., K., A. C., K. U. common, Wilson County, Manhattan and Douglas County, May and June.

65. 5,777. *ilicis* Knoch., K , A. C., K. U. not common, Douglas County, Topeka, May.

68. 5,789. *crenulata* Froehl., K., A. C., K. U. not common, Wilson and Douglas Counties, Manhattan and Salina, May, June.

69. 5,790. *albina* Burm., A. C. rare, Manhattan and East Kans.

71. 5,792. *rubiginosa* Lec., A. C., K. U. rare, Douglas County, Manhattan, May.

72. 5,791. *parvidens* Lec., A. C. rare, Manhattan.

73. 5,793. *submucida* Lec., K. U. rare, Douglas County and Junction City.

74. 5,794. *glabricula* Lec., K., A. C. not common, Rooks and Wilson Counties, Manhattan, June, July.

80. 10,266. *affabilis* Horn, A. C. rare, in collection of Dr. Horn, Philadelphia, Pa., and Manhattan, July.

84. 5,797. *crinita* Burm., K. rare, Salina, May.

86. 5,796. *tristis* Fab., A. C., K. U. not common, Douglas County, Manhattan and Topeka, May; also in National Museum.

The Agricultural College collection contains several species not identified, which yet require further study to refer this material to a proper specific position. The same is true of the University collection.

The forty-seven species and varieties given above, almost one-half of which are new to the Kansas list, shows that close and careful work in this genus has only just begun among the collectors of the State. The field is an attractive one to the entomologist, and it is reasonable to predict that the next few years will find the list almost double that here given.

THE Mediterranean Flour Moth, *Ephestia kuehniella* in Pennsylvania. —I am in receipt of a package of flour from a mill in Crawford County, Pennsylvania, which is literally alive with the larvæ of this dreaded mill pest. This is the first positive evidence of its occurrence in that State, although we have suspected it had a foot-hold there for some time. It has been very annoying to the firm in whose mill it was found for several years. On account of the very dangerous nature of this creature I would advise millers in eastern Ohio, western Pennsylvania and other places to be on the lookout for it.—W. G. JOHNSON.

NOTES ON SOME OF THE SALT MEADOW INSECTS OF NEW JERSEY.

By H. W. WENZEL.

To this fauna belong a number of insects, specimens of which have been found in the wash on the beach, or attracted to light, while others have been recorded without other information from various places along our coast. Nothing definite as to time of appearance, exact locality or habits of these insects was known. During the month of August I had the pleasure of spending some time in searching for this fauna. The result has fully determined the locality and habits of several of these interesting species. The homes of these insects are in the bare sand flats with no trace of sedge or other vegetation, which are occasionally found in the stretch of salt meadow extending along the coast between the ocean and the mainland. The sand must be deep; not only a thin layer, as is frequently found, and must be beyond the haunts of *Gelasimus* or fidler crabs.

One of the most interesting of these species is probably *Pogonus lecontei* Horn, the habits of which were entirely unknown to our collectors, only a few scattering specimens having been heretofore found along the coast.

The sand flats, as I will call them, are frequently covered in the center with a hard black sediment, varying in thickness, which can be removed in large slabs or flakes. On close examination small holes will be observed through this hard coating leading into small burrows, where *Pogonus* is at home during the day. Two, sometimes three specimens will be taken from one such burrow. This species is undoubtedly nocturnal in habit, and is also extremely variable in size and color. During the early morning hour it is interesting to watch the stragglers which have been out late and lost their homes; they will run as if wild in all directions; at times in a perfect circle, but by noon they have all disappeared. Under the same conditions specimens of a beautiful little *Tachys* of a decidedly pale color and unknown to me were taken.

A second species of *Tachys* and one species of *Bembidium* were taken at the roots of sedge grass growing on small knolls at the edge of the flats. Another interesting species belonging to this fauna is *Bledius mandibularis*, which was found in num-

bers by digging down into the sand. The favorite place for this species is the hard and moist sand around the margin of the *Pogonus* flats. The presence of these insects is readily known by small mounds of sand surrounding little round holes. When found in colonies the burrowings of this species, to the depth of over a foot, are remarkable. They seem to delight in making new passage ways through the sand usually in a perpendicular direction, but also diagonally and sometimes longitudinally.

On my last visit to these flats a square block showing the work of this species was dug up and carefully placed in a box with the object of saturating it with shellac, but on my return home it had dried and crumbled. Not having any further use for the sand the small pieces which were still intact were also crumbled, and two living specimens were found which were replaced after moistening the material. They at once started to make new burrows and kept on making new holes for over a week when they finally died near one of the entrances. Of this species larva and pupa were also taken.

As these observations were made during a part of August only, and but a few miles of meadow land covered in search of these flats, probably at the end of next season by careful early collecting in different localities a number of species will be added and their habits recorded.

How a Spider Disappears.—On the borders of the Everglades you often see a large yellow spider. He swings a strong web from two pliant twigs on each side of a path of clear space of ground and waits for his prey. The web is in the shape of a hammock, and tapers at each end to a fine point, though quite broad in the middle. The bright color of the owner seems to mark him out for destruction—he is clearly defined against the white sand or dead leaves, and you wonder what he would do for defense in case of attack. Approach quietly and he watches you intently. Now raise your hand suddenly and he will disappear. While you are wondering what became of him you see first a blur where he had been, then several spiders, then you catch sight again of the yellow ball you noticed at first. Repeat the performance and the stage effect is renewed. The disappearance is absolute—there can be no doubt about it, and the little magician trusts to it entirely for his protection. How is it done? As soon as he is threatened he starts the vibrations of his airy hammock; these become too rapid for the eye to follow, and he vanishes. As these become slower you see a blur, and then several spiders as the eye catches him at different points of his swing, until finally he rests before you.—*The Florida Citizen.*

ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for certain issue. Twenty-five "extras" without change in form will be given free when they are wanted, and this should be so stated on the MS. along with the number desired. The receipt of all papers will be acknowledged.—ED.

PHILADELPHIA, PA., NOVEMBER, 1897.

PHYSIOLOGICAL SPECIES.

WHILE strolling along the shore of the historic Delaware, near where it flows into the mighty Atlantic we heard the voice (?) of a *Cicada* singing (?). The tune was strange and visions of a n. sp. flitted through our cerebrum as nothing is impossible in Jersey. A mighty effort was made to snare the gentleman and it was crowned with success, but keen was our disappointment to find him, anatomically, only *C. tibicen*. Did he have bronchitis? how could he in his kettle-drum? Are we justified in describing him as new and naming him after a diva? Who can tell? perhaps Prof. Cockerell. What a field for those who have exhausted geographical and seasonal variations and tackle physiological species. We had dreamt of such things, but thought they were the baseless fabrics of visions only. We are ready to be enlightened on this subject as we are not afflicted with megalocephalitis, but are open to conviction.

AN ADDITIONAL NOTE.—On page 274, of vol. vii, I made a note of a curious habit of *Catocala concumbens* in selecting a resting place of such a color that they almost defied detection. This last year the telephone posts put up a year ago have become storm worm, and are now of a color nearly like the old poles. This year I find the *Catocalas* abundant on both the old and the new poles. I took fifty-three specimens one afternoon, forty-nine of which were *concumbens* and the rest *cara*. Most of these were badly rubbed and broken, due to the wet weather.—EDWARD WINSLOW CROSS.

DEPARTMENT OF ECONOMIC ENTOMOLOGY.

Edited by Prof. JOHN B. SMITH, Sc.D., New Brunswick, N. J.

Papers for this department are solicited. They should be sent to the editor, Prof. John B. Smith, Sc.D., New Brunswick, N. J.

The San Jose Scale.—It has been charged, and not without some show of reason, that entomologists and some others are losing their heads in the matter of dealing with this insect, and that there is an unnecessary and somewhat hysterical excitement created by an overabundance of lurid talk accompanied by an absence of careful study and work.

I say the charge is not without some show of reason, for, after all, what basis is there for all the fuss that has been made? It is about time that the subject was considered carefully and without excitement, lest the reaction when it comes, as it inevitably must, destroy confidence in the warnings of the entomologist altogether.

The result thus far of the agitation has been restrictive laws of doubtful constitutional value in some States, the imposition of license fees on the nursery business in others and "rules and regulations" and examination in some more, so that the nurseryman shipping outside his own State has not the least idea of what will happen to his stock before it reaches his customer, if indeed it ever reaches him. Sometimes he must have a certificate of inspection and in one case must file it in another State in exchange for printed permits to ship into that State. All these are vexatious restrictions that are only admissible under stress of the clearest necessity.

Does such a necessity really exist?

The San José Scale, *Aspidiotus perniciosus* Comstock, is one of the so-called "armored" scales, the insect itself being hidden and protected by a covering of a tough tissue secreted by the insect itself and supplemented by its cast skins. There are other species of the same and allied genera with equally dense coverings that occur in the Atlantic States, but this *perniciosus* is an importation from the Pacific coast—which is all that we really know of its nativity. Prof. Cockerell argues that it is a native of Japan, and his arguments are weighty; but there is no real proof; all is inference, based, I admit, on established facts, but the facts are insufficient and not inconsistent with other conclusions.

But that we have to deal with an imported insect is nothing really new—we have others that have come to us and have done us woeful harm: cabbage butterflies, elm leaf beetles, asparagus beetles, horn flies, and others too numerous to mention. Even from the great West we have an immigrant in the form of the Colorado potato beetle that is no "slouch" as the boys would say.

Is it so much more destructive than other pests? Not at all. Let the potato beetle alone and the potato harvest can be easily gathered in most

years. Allow the cut-worms free range in any planted crop and see how much is left for the farmer? Permit the canker worms to range as they will in an apple orchard and how much fruit will be gathered? These are cases imperiling either fruit only or an annual crop; but how about peach borers or round headed apple or quince borers? Let them go unchecked and how long a lease of life has a tree? No, the San José scale is not a particle more destructive than many of our native species or those to which we have become used.

It is no more of a menace to fruit culture than the codling moth or plum curculio, which must be annually and persistently fought to secure a crop that will pass muster and bring remunerative prices.

It does not compare with fungus troubles in rapidity of effect. Note the fire-blight and other blights in apple and pear orchards. Almost overnight a thrifty orchard may be practically ruined, and the various forms of rots, molds and smuts are infinitely worse than San José or any other scale insect. Its coming does add a new pest to be dealt with. It is a new factor in fruit-growing that makes it increasingly difficult and more expensive and adds to the demand for intelligence and ability on the part of the grower.

Other insects have offered problems apparently as difficult, *e. g.* the "pear midge," which oviposits in the blossom, whose larva feeds in the pear fruit beyond reach of insecticides and who emerges from its shelter only to drop to the ground and go beneath the surface. Yet we have mastered this species and control it easily; so easily, indeed, and withal so completely that in some places it has been apparently—note the word—exterminated.

The San José scale multiplies with enormous rapidity, but so do plant lice, and some other insects as melon growers know to their cost, acres of vines becoming covered with plant lice in a few weeks from a few scattering individuals noticed in early Summer.

Is the scale so hard to kill? Yes and no! It is no worse in this respect than some of our native scales, because on some trees infested by both San Jose and "scurfy" scales Winter treatment killed nearly all the *pernicious* form while the tree is now coated with the common species which the application left unharmed. It was simply a matter of the time of treatment. The unprotected larva of the San José scale is just as easy to kill as that of any other armored scale—only, and the difference is important, in scales with one annual brood one or two sprayings will reach the entire crop of larvæ; in the San José scale, which breeds continuously for several weeks' treatment against the larvæ, must be made at frequent intervals during the life of the breeding scales. Another very important matter is, that if a single brooded scale is reduced by proper treatment to insignificant numbers it takes it several years to recover. The San José scale on the contrary from the same nucleus becomes as bad as ever by the end of Summer. But do we not get the same thing with the potato beetle? Kill them off in Spring and then let them alone,

as is the usual practice, the balance of the season, and next Spring there will be just as many as before to be dealt with.

The truth is that we have not taken these facts into proper consideration, and have attempted the impossible, *i. e.* extermination by a single treatment or at one single season. Now I will make the very radical assertion that the San José scale is a very easy species to deal with and that its practical extermination in an infested orchard is not particularly difficult. I will admit, however, that the treatment to accomplish this result is heroic and somewhat expensive, but if the trees are not worth the labor and expense involved, they might as well be taken out altogether, because the scales will sooner or later kill them and will at once reduce the value of the fruit if they do not make it actually unsaleable.

To accomplish the result above indicated will require treatment both in Winter and Summer, because Winter treatment alone, whatever the medium, will, I am convinced by experience, prove ineffective, and repeated Summer treatment alone might prove injurious to the trees.

After January 1st and at any time before the trees become in the least active spray with pure kerosene of the ordinary 150° test. Be thorough, but not wasteful; use enough to make a film of kerosene capable of penetrating into the smallest crevices, but let that film be of the thinnest possible description. Do the work on a dry bright day with enough air stirring to favor rapid evaporation and do it yourself, or at least superintend so that carelessness in the application be not charged against the insecticide as inefficiency.

Whale oil soap, two pounds in one gallon of water, will do almost as well on smooth barked young trees, but not on rough or scaly barked older ones, because of its much smaller penetrating power. Ten days or two weeks thereafter trim out the trees thoroughly and carefully, cut out all the wood not absolutely needed, but do not risk spoiling or even injuring the trees. Leave enough to carry a moderate crop of fruit if the trees are in bearing. Do not trim before spraying to avoid cut surfaces into which the kerosene might penetrate. The trimming is to remove that wood least easily reached by the spray and thus to reduce to the lowest possible point the chance of surviving scales. A few will survive almost certainly. A few trees will probably be entirely cleared, but most of them will harbor a few survivors no matter how many treatments are made. Watch closely during the following July, for traces of the scales on fruit, and as soon as such are noticed spray again with undiluted kerosene. If applied as above directed so as to afford a chance for rapid evaporation no harm will be done to fruit or trees, while in nine out of ten cases the scales will be completely destroyed. Thereafter a close watch each Summer and a prompt use of kerosene when scales are noticed will not only prevent injury, but will in not too great a time "exterminate" the scale. Try it! don't rely upon laws and conventions to do the impossible.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

Chrysophanus snowii Edw.—I have found the larvæ of this species in Colorado feeding on mountain sorrel, *Oxyria digyna*. They are velvety green with reddish dorsal line. The chrysalis stage lasts from eight to ten days.—DAVID BRUCE.

DESCRIPTION OF AN ABERRATION OF CHRYSOPHANUS AMERICANA.—A specimen taken on June 8, 1897, by Master G. W. Walker at Jamaica, Long Island, N. Y., showed the following peculiarities: Fore wings, upper side a bright golden-orange; costal and outer margins a pale lemon color, the eight usually black spots brown, and not very large or perceptible. Hind wings a very pale lemon, except near exterior margin, where there is a bright orange band, very much the same as the fore wings; the blue spots usually found on the Spring form are entirely absent; the inner margin, near the body, is slightly darker; antennæ, club brown, stem white with very pale yellow bands; palpi white, collar light gray, thorax and abdomen light brown. Under side: fore wings same color as the upper side; spots light brown and very small; hind wings creamy white. with a few faint brown spots and an irregular orange-red streak near the outer margin. Body and legs a very light ash color. This insect was taken by a boy eleven years of age, and, considering the circumstance, is in very fair condition.—J. V. D. WALKER.

THE ENTOMOLOGICAL COLLECTIONS AT THE UNIVERSITY OF OXFORD.—The recently issued 'Ninth Annual Report of the Delegates of the University Museum (for 1896),' contains many items of interest from which we reprint some as a supplement to the account given in the NEWS for March, 1896, page 66.

"The whole collection of British Aculeate Hymenoptera has been revised by Mr. Edward Saunders; a part of the collection of Phytophaga (Coleoptera) by Mr. M. Jacoby; the Membracidæ and Cicadæ by Canon Fowler, assisted by Mr. W. F. Kirby. . . . . A very valuable collection of Rhopalocera (butterflies), chiefly from Central and South America, but also including a large number from other parts of the world, was presented by F. DuCane Godman, Esq., F. R. S., and Osbert Salvin, Esq., F. R. S. . . . The specimens in this collection are of especial value because of the excellent geographical data which accompany them. Although specimens from all countries are included, the collection is especially rich in species from Central America, a district of peculiar interest, hitherto but poorly represented in the Hope Collection. Many specimens of historic interest are also present—the captures of H. W. Bates in Brazil, of T. Belt, in Nicaragua, and of A. R. Wallace in the Malay Archipelago. The majority of the more recently captured specimens were taken by the greatest living collectors such as G. C. Cham-

pion and H. H. Smith (Central America), and C. M. Woodford (Solomon Islands); so that all localities can be entirely depended upon. No conditions are attached to the gift, so that the specimens can be at once incorporated with those of the general collection as soon as they have been adequately labeled. The collection also contains a large amount of material which will be available to illustrate the principles of Protective Mimicry, Geographical Distribution, Isolation, etc. The following table indicates the numbers of specimens now in Oxford. The numbers of all Groups, which are marked as 'named,' are final; those of the others will be somewhat reduced when they have been named and compared with the existing collection . . . . among these Godman-Salvin

Families of Rhopalocera.	Number of Specimens.	Work Accomplished.
1. Nymphalidæ		
a. Danainæ	2142	Named, arranged, reset.
b. Satyrinæ	1677	Named, arranged, reset.
c. Elymniinæ	18	Named.
d. Morphinæ	153	Named.
e. Brassolinæ	163	Named.
f. Acræinæ	256	Named, arranged, reset.
g. Heliconiinæ	513	Named, arranged, reset.
h. Nymphalinæ	5311	Named, partially arranged and reset.
2. Erycinidæ	1182	Named, arranged, reset.
3. Lycænidæ	995	
4. Papilionidæ		
a. Pierinæ	2151	Mostly reset.
b. Papilioninæ	1092	Named.
5. Hesperidæ	463	
Total	16,116	

specimens there are 826 specimens from [the Solomon Islands], captured by C. M. Woodford . . . . several islands of the Group are represented, including the extremely dangerous Maleita Island, where the collector could not venture beyond the range of the rifles of his guard. . . . . This Department has also received many other valuable accessions during 1896. The large numbers of Rhopalocera kindly presented by A. G. Cardew, Esq., [from India] J. J. Walker, Esq., R. N. [chiefly Oriental and Australian] and G. A. K. Marshall, Esq., [from South Africa] are of especial value because of the accurate data which accompany them. Those of Mr. Marshall are accompanied by notes giving precise date, locality, height above the sea, and statement as to wet or dry season form. They are the most perfectly recorded specimens in our whole collection." —From the report of Prof. Edward B. Poulton, Hope Professor of Zoology, to whom we are indebted for copies.

COSTLY BUGS.—Fifty dollars seems an extravagant price to pay for one black beetle. Yet Kansas was once inhabited by these insects, and they sold readily for that much, and sometimes for more. The beetle, known as the *Amblychila*, was supposed to have become extinct. But two specimens of it were known, one of which was in the University of Bonn. Two young men traveling through Kansas some years ago found numbers of the beetles. They were alive and readily sold for $50. In all they made $10,000 in supplying the beetles to scientists.

The above clipping in regard to *Amblychila cylindriformis* is from this morning's *Record* (Sept. 30, '97), and is another case of newspaper entomology. Aside from two broken specimens, both of which were found dead, the first two perfect specimens of *Amblychila cylindriformis* found were sold in Philadelphia for $12.50 each; one being purchased by the American Entomological Society and the other by Mr. Wilt. The above information I received from Mr. Wilt, himself, some twelve years ago. Prof. Snow, of Kansas, has captured the insect in large numbers, and at one time sold them at eight cents each. If I am not mistaken it was Prof. Snow who found out that the insect was nocturnal in habits.—PHILIP LAURENT.

Entomological Literature.

Under the above head it is intended to note such papers received at the Academy of Natural Sciences of Philadelphia pertaining to the Entomology of the Americas (North and South). Articles irrelevant to American entomology, unless monographs, or containing descriptions of new genera, will not be noted. Contributions to the anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in **heavy-faced type** refer to the journals, as numbered in the following list, in which the papers are published; * denotes that the paper in question contains descriptions of new North American forms.

4. The Canadian Entomologist, London, Ont., October, '97.—**5.** Psyche, Cambridge, Mass., October, '97.—**6.** Journal of the New York Entomological Society, September, '97.—**9.** The Entomologist, London, October, '97.—**11.** The Annals and Magazine of Natural History, London, September, '97.—**15** Biologia Centrali-Americana, London, part cxxxv May, part cxxxvi August, '97.—**21.** The Entomologist's Record, London, Sept. 15, '97.—**36.** Transactions, Entomological Society of London, '97, part iii, Sept. 1.—**41.** Entomologische Nachrichten, Berlin, '97, No. 16, Aug.—**45.** Deutsche Entomologische Zeitschrift '97, heft 1, Berlin, July.

General Works.—Comstock, J. H. Insect Life. An introduction to Nature-study and a guide for teachers, students, and others interested in out-of-door life. By John Henry Comstock, Professor of Entomology in Cornell University and in Leland Stanford Junior University. With many original illustrations engraved by Anna Botsford Comstock, Member of the Society of American Wood-engravers. New York, D.

Appleton & Co., 1897; 12mo. pp. 349, 296. An excellent little book which seems to perfectly fulfil the purposes for which it was written, namely "to make easier the gaining of this intimate acquaintance with . . . . the creatures about us, ... to serve as a guide for those who wish to acquire a knowledge of insects from a study of the insects themselves; it is intended to lie open before the observer while the subject of study is examined." Excellent it seems to us to be because of its suggestions to the reader as to the functions of organs and of methods for discovering these; because of its treatment of insects according to what we may perhaps call 'topographical habitat,' as pond-, brook-, orchard-, forest- or road-side-dwellers; and because of its extensive practical information as to collecting, preserving, labeling and breeding insects, and as to those books which the beginning student will find helpful. We have thus indicated most of the contents of this guide, and have but to mention that there are also chapters on the anatomy, metamorphoses and classification of insects.

Weed, C. M. Life Histories of American Insects. By Clarence Moores Weed, D.Sc., Professor of Zoölogy and Entomology, New Hampshire College of Agriculture and the Mechanic Arts. With 21 full page plates and many figures in the text. New York. The Macmillan Co., 1897; 12mo., pp. xii, 272; 21 plates and 94 other figures. From the publishers, price $1.50. A series of twenty-six pleasant essays, each from three to thirty-nine pages in length, on a number of American insects, using this term in its widest sense, as the ground-spiders and, as a matter of course, the harvest-spiders are included. Some of these have been previously published in various journals, the longest, on the hibernation of Aphides, in "Psyche" as the annual address of the retiring president of the Cambridge Entomological Club, 14 February, 1896. Over the odd covers of the book, the subjects of Prof. Weed's studies may be seen crawling in profusion.

Dixey, F. A. Mimetic attraction, 1 pl., **36.**—Grover, W. Attractiveness of light, **21.**—Hanstein, R. v. E. Wasmann's Comparative Studies on the mental life of ants and higher animals. Freiburg, '97. Naturwissenschaftliche Rundschau, Braunschweig, Sept. 11, '97.—Packard, A. S. The number of moults in insects of different orders, **5.**—Poulton, E. B. Mimicry in butterflies of the genus *Hypolimnas* and its bearing on older and more recent theories of mimicry. Science, New York, Oct. 1, '97; Report of the Hope Professor of Zoology, Ninth Annual Report of the University Museum for 1896. Oxford, '97.

Economic Entomology.—Kirkland, A. H. The ninth annual meeting of the association of Economic Entomologists, Detroit, Mich., Aug. 12th and 13th, 1897, **4.**—Quaintance, A. L. Some strawberry insects. Bulletin 42, Florida Agric. Exper. Station, Lake City, Fla., Aug., '97.—Webster, F. M. The San José scale in Ohio, figs. Bulletin 81, Ohio Agric. Exper. Station, Wooster, O., July, '97.

Arachnida.—Cambridge, F. O. P. Arachnida Araneidea vol. ii, pp. 1-8, **15,** pt. cxxxvi.—Cambridge, O. P. Arachnida-Araneidea,

vol. i, pls. xxvi, xxvii, **15,** pt. cxxxvi.—Henshaw, S. Bibliographical notes, viii. Biologia Centrali-Americana, Arachnida Acaridea by Otto Stoll, 1886-93, **5.**—Piersig, R. Deutschlands Hydrachniden ii, 9 pls. Stuttgart, E. Nägele, 1897.—Trouessart, E. L. The acarine of the sugar wines of the south, figs. La Nature, Paris, Sept. 14, '97.

Orthoptera.—Aplin, O. V. See Hemiptera.—Burr, M. On new species of Forficularia, **11.**—de Saussure, H. Orthoptera,* pp. 257-288, pl. xiv, **15,** pt. cxxxv; pp. 289-304, pl. xv—with A. Pictet, **15,** pt. cxxxvi.

Neuroptera.—Calvert, P. P. [Note on *Lestes virgo* Hag. MS.], **6.**—Blandford, W. F. H. The social system of Termites. Nature, London, Sept. 30, '97.

Hemiptera.—Aplin, O. V. Stridulation of Cicadidæ and Orthoptera, Zoologist, London, Sept. 15, '97.—Fowler, W. W. Rhynchota Homoptera,* vol. ii, pp. 169-184, pl. xi, **15,** pt. cxxxv; pp. 185-200, **15,** pt. cxxxvi.—Goding, F. W. *Ledra perdita* vs. *Centruchus Liebeckii*, **4.**—Kirkaldy, G. W. Synonymic notes on aquatic Rhynchota, **9.**—Maskell, W. M. On a collection of Coccidæ, principally from China and Japan. Entomologist's Monthly Magazine, London, Oct., '97.—Webster, F. M. Brood xv of *Cicada septendecim* in Ohio, 1 pl., **4.**

Coleoptera.—Blackburn, T. Revision of the genus *Paropsis*. Proceedings, Linnean Society, New South Wales, '96, pt. iv. Sydney, May 31, '97.—Blandford, W. F. H. Coleoptera, vol. iv, pt. 6, pp. 145-152, **15,** pt. cxxxvi.—Champion, G. C. Coleoptera,* vol. iii, pt. 1. pp. 625-656, **15,** pt. cxxxv; pp. i-xvi, 657-690, pl. xxvii, **15,** pt. cxxxvi; A list of the Phytophagous Coleoptera obtained by Mr. H. H. Smith at St. Vincent, Grenada and the Grenadines: Hispidæ and Cassididæ, **36;** On the serricorn Coleoptera of St. Vincent, Grenada and the Grenadines, **36.**—Cockerell, T. D. A. Biological notes on some Coleoptera from New Mexico, **6.**—Fall, H. C. A list of the Coleoptera of the southern Californian islands, with notes and descriptions of new species,* **4.**—Gorham, H. S. Coleoptera,* vol. vii, pp. 233-240, pl. xii, **15,** pt. cxxxv; pl. xiii, **15,** pt. cxxxvi.—Hayward, R. Preliminary handbook of the Coleoptera of northeastern America [*Bembidium*], **6.**—Horn, W. The Mexican Cicindelidæ,* **45.**—Jacoby, M. A list of the phytophagous Coleoptera obtained by Mr. H. H. Smith at St. Vincent, Grenada, and the Grenadines, with descriptions of new species: Crioceridæ—Galerucidæ,* **36;** Descriptions of some new species of Clythridæ and Eumolpidæ, **9.**—Kraatz, G. *Trichotarsus* new Cetonid genus based on *Ischnoscelis* Westw., **45.**—Oertzen, F. v. Contribution to the knowledge of the genus *Anomalipus*, **45.**—Reitter, E.—On some species of *Carabus*, their classification and systematic specific groups, **45;** New revision of the European species of the Coleopterous genus *Plinthus* Germ., **45.**

Diptera.—Coquillett, D. W. Revision of the Tachinidæ of America north of Mexico.* U. S. Dept. Agriculture Division of Ento-

mology, Technical Series No. 7, Oct. 2, '97.—Patton, W. H. A principle to observe in naming galls; two new gall-making Diptera,* **4.**—Townsend, C. H. T. Contributions from the New Mexico Biological Station, ii (cont.), On a collection of Diptera from the lowlands of the Rio Nautla, in the State of Vera Cruz ii,* **11;** Diptera of the Organ Mountains in southern New Mexico—i, **5.**—Vosseler, J. On the life-history of the 'stechmücken'; On a rare infectious disease among flies, figs. Jahreshefte d. Vereins für väterlandische Naturkunde in Württemberg. Stuttgart, liii, '97.—Wheeler, W. M. A genus of maritime Dolichopodidæ new to America,* 1 pl. Proceedings, California Academy of Sciences, (3) Zoology I, No. 4. San Francisco, July 10, '97.

Lepidoptera.—Anon. *Hepialus quadriguttatus* Grote, **4.**—Chapman, T. A. Notes on the pupa of *Oeta floridana*, 1 pl., with note by H. G. Dyar, **6;** Notes on *Charaxes jasius:* its life-history, protective resemblance, etc., with some observations on moulting and pupation, **21.**—Cockerell, T. D. A. The larva of *Cydosia*, **5.**—Druce, H. Lepidoptera Heterocera,* vol. ii, pp. 393–408, pls. lxxvi, lxxvii, **15,** pt. cxxxv; pl. lxxviii, **15,** pt. cxxxvi; Descriptions of some new species of Heterocera from tropical America, **11.**—Dyar, H. G. On the white Eucleidæ and the larva of *Calybia slossoniæ* (Packard), 1 pl., **6;** A comparative study of seven young Arctians, 2 pls., **6;** Life-history of *Pyromorpha dimidiata*, **5.**—Fruhstorfer, H. New butterflies from South America, **41.**—Genthe, K. W. The mouth-parts of the Microlepidoptera, 3 pls. Zoologische Jahrbücher (Abtheil. f. Systematik), x, 4. Jena, Sept. 15. '97.—Grote, A. R. Photographic reproduction of the wing-veins of butterflies, 1 pl. Extract from Illustrierten Wochenschrift für Entomologie (J. Neumann, Neudamm) ii, No. 38.—Poulton, E. B. See General Works.—Romanoff, N. M. (Grand-duke Nicholas) (editor). Mémoires sur les Lepidopteres, Tome ix. St. Petersburg, '97; 14 col. pls. Six papers by S. Alphéraky and one by O. Herz on North-Asiatic forms.—Scudder, S. H. The chrysalis of *Feniseca tarquinius*, 1 pl., **5.**—Ule, E. Symbiosis between *Asclepias curassavica* and a butterfly [*Danais eurípus*] with a contribution on that between ants and *Cecropia*. Berichte der deutschen botanischen Gesellschaft xv, 7. Berlin, Sept. 7, '97.

Hymenoptera.—Ashmead, W. H. Descriptions of two new fossorial wasps,* **5.**—Forel, A. Some Formicidæ of the Antille Grenada collected by Mr. H. H. Smith,* **36.**—MacGillivray, A. D. New species of *Tenthredo*,* **6.**—Packard, A. S. Notes on the Transformations of higher Hymenoptera, iii, figs., **6.**—Patton, W. H. *Thyreopus advenus* (Sm.) Pack., a protector of the army worm, **4.**—Stadelmann, H. Remarks on Dalla-Torre's Fossores-Catalogue, **41.**

Doings of Societies.

A meeting of the Entomological Section of the Academy of Natural Sciences was held May 27, 1897, Mr. W. J. Fox presiding. Mr. S. T. Kemp presented to the collection of the American Entomological Society four specimens of *Casnonia ludoviciana*. Mr. Laurent stated that two years ago he had reported the capture of *Crioceris 12-punctata* at Holmesburg, Pa., which he believed was the first report of its capture in the State. He had looked for the species around Mt. Airy, Phila., last year, but had not observed it. May 23d of this year he had found it at Mt. Airy in large numbers. The speaker requested field workers to look out for this insect as it will be of interest to watch the spread of the species. Dr. Castle reported *Crioceris 12-punctata* from Lancaster. Dr. Calvert exhibited some dragonflies brought in by members and two species caught by himself which are not new to the neighborhood, but the dates of capture are earlier than usual. The species were *Didymops transversa* one ♂ Woodbury, N. J., April 29, fourteen days earlier (S. T. Kemp); *Libellula exusta* ♂ ♀ Clementon, N. J., May 16, nineteen days earlier (C. W. Johnson); *Plathemis trimaculata* one ♂, Woodbury, N. J., May 7, ten days earlier (S. T. Kemp); *Tetragoneura cynosura* one ♂ May 20, one ♀ May 22, Ridley Tws. ten days earlier (P. P. Calvert).

Mr. Liebeck exhibited three species of Coleoptera which are rare in this locality and the peculiarities of the species were pointed out—they were *Melasis pectinicornis*, *Dendrophilus punctulatus* and *Plæsoma punctata*. A species of Hymenoptera was also taken while looking for *Bruchus* on the wild hibiscus. Holes were noticed some eight inches from the bottom and occupied the pith. The species proved to be *Crabro paucimaculata*. Mr. Fox said such was the usual habit of these wasps when nesting. Dr. Skinner mentioned some interesting species of Lepidoptera new to our fauna—they were *Pieris ochsenheimeri* from Alaska, and *Anæa troglodyta* and *Thecla martialis* from Biscayne Bay, Florida, the last two were captured by Mrs. A. T. Slosson. Mrs. Slosson also caught *Eunica tatila* H.-S. at same place.

Mr. C. W. Johnson spoke of the abundance of Syrphidæ on the flowers of sand myrtle (*Leiophyllum buxifolium*) at Clemen-

ton, N. J., May 10 and 16. *Ceria abbreviata*, *Xanthogramma æqualis*, *Spilomyia hamifera* (caught by Chas. T. Greene) and sp. were collected for the first time in this section. *Sphecomyia vittata*, *Xylota bicolor*, *Somalus decorus*, *Criorhina analis* and *C. umbratilis* before collected by the speaker at Edge Hill, Montgomery County, Pa., were also taken, the latter species being quite common. A specimen of *Vespa carolina* was also captured in the flowers. Mr. Hornig reported the capture of *Cicindela consentanea* from Atco, N. J.; also *Amblyscirtes vialis* from Clementon, N. J., on May 15. Mr. Frank R. Mason was elected an Associate of the Section. Dr. HENRY SKINNER,

Recorder.

PHILADELPHIA, Oct. 12, 1897.—A stated meeting of the Feldman Collecting Social was held at the residence of Mr. H. W. Wenzel, 1509 S. 13th Street. The following correction was made in relation to a previous communication:

"Mr. Wenzel remarked that nearly all of the species belonging to the group of *Dysonycha politula* were more or less red when alive, but would fade into yellow in the course of time."

A written acknowledgement of the fifteen boxes of Coleoptera comprising the local collection of Pennsylvania and New Jersey presented to the Academy of Natural Sciences by the Social on June 22, 1897, was read; the same being dated Oct. 5, 1897, signed Benjamin Sharp, Corresponding Secretary.

Prof. Smith exhibited some very good photographs of the peach-borer, *Sannina exitiosa*, and the pear-borer, *Sesia pyri*. Continuing, Prof. Smith read and discussed an article published in "The Literary Digest" entitled, "How Flies walk on the Ceiling." In it is stated that in old text-books we are told that flies are enabled to walk on the ceiling by means of "suckers" on their feet. This and some later explanations it states are discussed by G. H. Dierhold, in "Our Animal Friends" (September). Some of the theories advanced were: first, that each little fly foot is a miniature air pump; second, that flies stick to glass by means of a viscous fluid substance which exudes from the hairs with which the foot cushion is covered; and thirdly, that what is now considered the true theory of the walking of flies on smooth substances is, that they hang on by the help of capillary adhesion—the molecular attraction between solid and liquid

bodies. The professor in concluding stated that in his opinion he believes it to be purely a mechanical act.

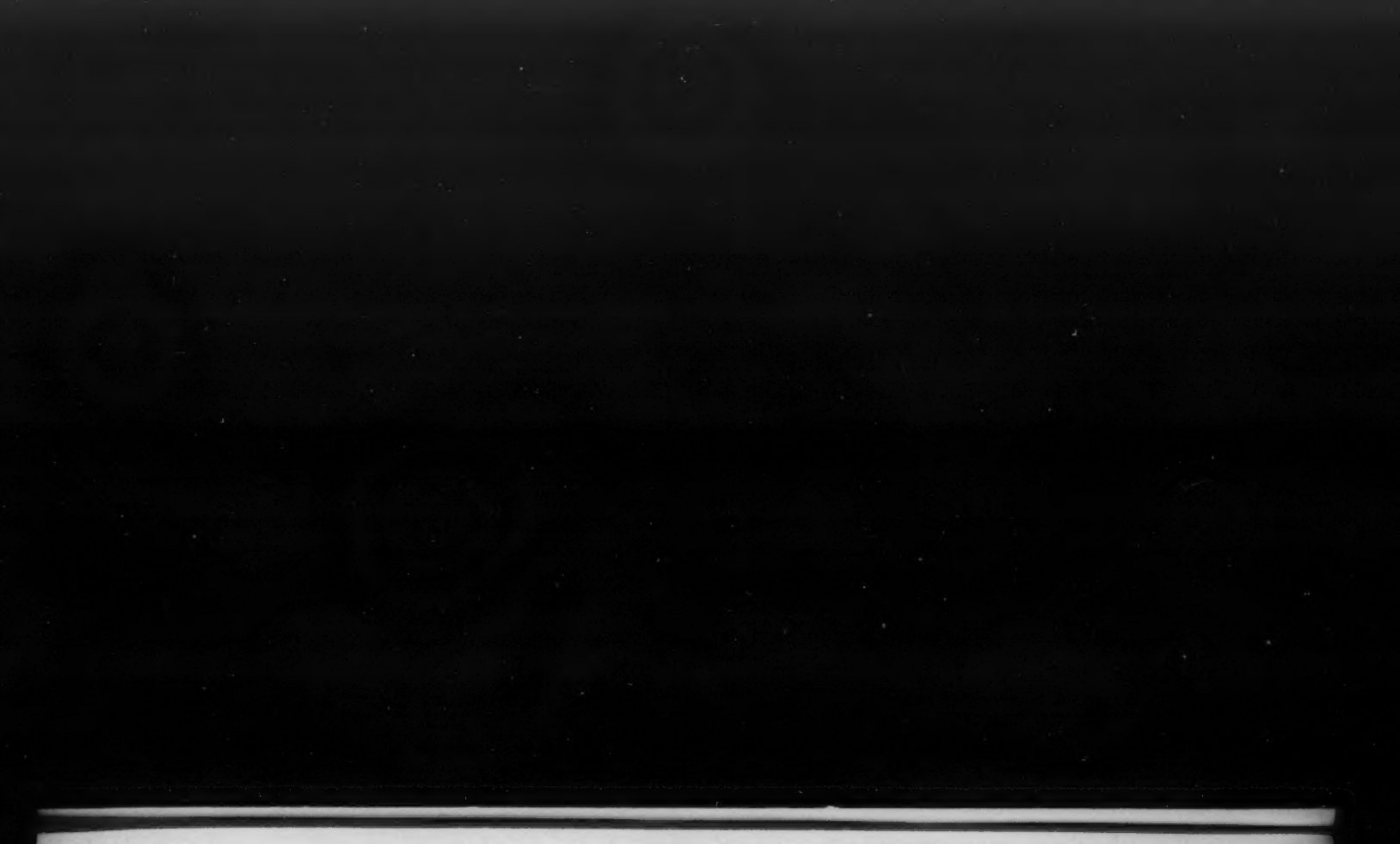
Mr. Fox exhibited a specimen of *Vespa crabro*, an introduced European species, taken at Anglesea, N. J., by Mr. John Sturmer; the speaker stated that while it is quite common in the northern part of New Jersey it is quite rare in this locality, this being the second specimen the speaker has seen from so far south.

Mr. Laurent exhibited a collection of Lepidoptera taken by Mr. Wenzel at North Mountain, Pa., also Coleoptera and Lepidoptera taken at King and Bartlett Lake, Me., by Dr. Hughes. He also exhibited photographs of *Dorcaschema wildii* Uh. and *Dorcaschema alternatum* Say, showing their destructive work on osage orange; also *Goes pulverulenta* on the beech, and *Cryptorhynchus lapathi* on the willow.

Dr. Skinner exhibited specimens of *Mermiria bivittata* found at Cape May, N. J. They wonderfully mimic their surroundings, and to such an extent as to make it almost impossible to see them when they drop in the herbage.

Mr. H. W. Wenzel read the following list of Scolytidæ taken at North Mountain, Pa., by Mr. Johnson and himself. *Xyloterus scabricollis*, *Xyleborus cælatus*, *Tomicus cacographus*, *Dendroctonus rufipennis*, *Crypturgus atomus* and two unknown species. The first species was found boring into hemlock and the last six in spruce.

Mr. Johnson spoke of the recent work of Mr. D. W. Coquillett, "Revision of the Tachinidæ of North America." This valuable publication being the first systematic work on this difficult family in this country. Some idea of the fireat reduction of generic and specific names may be derived from the following figures: about 575 species are recorded, of which 318 are recognized (92 being new) and 11 remain doubtful. Of the 255 genera recorded, 125 are recognized (12 being new).

THEO. H. SCHMITZ,
Secretary.

ENTOMOLOGICAL NEWS for October was mailed October 1, 1897.